ADDING SPEED TO FLIGHT

BUILDING THE COMMON TAKEOFF

Kris Grimes
The University of Kentucky

Dr Nick Heebner
Sports Medicine Research Institute
The University of Kentucky
- BEING SHOT FROM A CANNON
- HIT IT HARD POSTURE
- EFFICIENT TRANSFER
SKATE BOARD
KNEES TOGETHER AT:
- Next to last Take-off
- Penultimate
- Take-off
- Flight

AXIAL FORCE – BENCHMARKS
FINDING POSTURAL CENTER
- SIMPLE TO COMPLEX
FINDING POSTURAL CENTER - SIMPLE TO COMPLEX
THE LAWS OF NATURE VS HUMAN NATURE
FORWARD BIAS AND INCOMPLETE HIP EXTENSION
BEFORE LIFE HAPPENS
“The Long Jump could basically be considered a projectile event with a difference in degrees,” (Matic et.al. 2012)

The run-up velocity is the most significant (factor) for the length of the jump (Bridgett et al. 2002)

Optimum Angle of Take Off in the Long Jump is about 23 degrees (Nicholas P. Linthorne, Maurice S. Guzman, Lisa A. Bridgett 2002)
WHAT DO WE ULTIMATELY WANT?
THE REBAR IN OUR CONCRETE
DEFINITION OF THE WORD “JUMP”
LET’S TAKE A LOOK AT SOME EXAMPLES OF VERTICAL FORCE APPLICATION.
LONG JUMP
TRIPLE JUMP
POLE VAULT
HIGH JUMP
KNEES TOGETHER AT:

- Next to last Take-off
- Penultimate
- Take-off
- Flight

HOW DID THEY GET THERE?
- Skipping the 7 year old version
- Ankle dribbling thank you Dan Pfaff
- Straight leg bounds heal first contact
- Straight leg bounds to takeoff

APPLICATION TIME – BASIC DRILLS
BASIC POSTURE
7 YEAR OLD SKIP
Dribbling
STRAIGHT LEG BOUND – HEAL/VERTICAL
DRIBBLE IN TO STRAIGHT
APPLICATION TIME –
LONG JUMP
APPLICATION TIME – TRIPLE JUMP
APPLICATION TIME – TRIPLE JUMP
APPLICATION TIME – HIGH JUMP
APPLICATION TIME – HIGH JUMP
APPLICATION TIME - POLE VAULT

Getting the step out & stiff leg take-off

- Skipping
- Right Knee past
- Complete the front side - Show the bottom of the foot both L&R
CUES:

- Show the bottom of the foot to the Pit/sand etc in take off foot but also penultimate.
- “Active landing” means matching the speed of the ground in jumping, applying force vertically.
SPECIAL THANKS!

- Dr Nick Heebner,
- Dan Pfaff
- Cliff Rovelto
KENTUCKY TRACK & FIELD
Carrying as much speed through the takeoff while maintaining posture and gaining height requires efficiency. This presentation explored the most effective way to transfer energy from the run to the flight phase of the jump and included teaching progressions to achieve that efficient transfer.
IMPACT OF SHEARING